

AMENDMENTS TO THE CLAIMS

1-122. **(Previously Canceled)**

123. **(Currently Amended)** A method for purifying a carboxylated glycan, said method comprising:

a) providing:

- i) a molecule comprising a carboxylated glycan;
- ii) biotinylated diamino pyridine (BAP); and
- iii) an exoglycosidase;

b) conjugating said molecule to said BAP to produce a BAP-glycan conjugate;

c) treating said BAP-glycan conjugate with said exoglycosidase to produce a first treated BAP-glycan conjugate comprising a first anionic BAP-glycan conjugate having from 1 to 2 negative charges per molecule; and

d) isolating said first anionic BAP-glycan conjugate having from 1 to 2 negative charges per molecule, thereby purifying a carboxylated glycan.

124. **(Currently Amended)** The method of Claim 123, further comprising the steps of:

e) treating said first anionic BAP-glycan conjugate produced in step c) or step d) with an exoglycosidase to produce a second anionic treated BAP-glycan conjugate comprising a second anionic BAP-glycan conjugate having from 1 to 2 negative charges per molecule; and

f) isolating said second anionic BAP-glycan conjugate having from 1 to 2 negative charges per molecule, thereby purifying a carboxylated glycan.

125. **(Previously Added)** The method of Claim 124, further comprising repeating steps e) and f) from 1 to 10 times.

126. **(Previously Added)** The method of Claim 123, wherein said isolating comprises fractionating by ion exchange chromatography.

127. **(Previously Added)** A carboxylated glycan purified by the method of Claim 123.

128. **(Previously Added)** The carboxylated glycan of Claim 127, wherein said molecule comprising said carboxylated glycan is a glycoprotein or polysaccharide.

129. **(Previously Added)** The carboxylated glycan of Claim 128, wherein said glycoprotein is a receptor for advanced glycation end products (RAGE).

130. **(Currently Amended)** A method for purifying a carboxylated glycan, said method comprising:

- a) providing a molecule comprising a carboxylated glycan;
- b) isolating from said molecule a first anionic glycan containing from 1 to 4 negative charges per molecule; and
- c) desialylating said isolated first anionic glycan to produce a first desialylated anionic glycan containing from 1 to 4 negative charges per molecule, thereby purifying a carboxylated glycan.

131. **(Currently Amended)** The method of Claim 130, further comprising d) isolating from said first desialylated anionic glycan a second anionic glycan containing from 1 to 4 negative charges per molecule, thereby purifying a carboxylated glycan.

132. **(Previously Added)** The method of Claim 130, further comprising prior to step a) the step of treating said molecule with a proteinase enzyme.

133. **(Previously Added)** A carboxylated glycan purified by the method of Claim 130.

134. **(Previously Added)** The carboxylated glycan of Claim 133, wherein said molecule comprising said carboxylated glycan is a glycoprotein or polysaccharide.

135. **(Currently Amended)** A method for identifying a test agent as reducing specific binding of a polypeptide to a carboxylated glycan, comprising:

- a) providing:

- i) a carboxylated glycan purified by the method of Claim 123;
 - ii) an antibody that specifically binds to said carboxylated glycans, wherein said binding is not reduced by a carboxylate-neutralized glycan; and
 - iii) a test agent;
- b) contacting said purified carboxylated glycan, said antibody, and said test agent; and
- c) detecting a reduction in the level of binding of said antibody to said carboxylated glycan in the presence of said test agent compared to in the absence of said test agent, thereby identifying said test agent as reducing specific binding of a polypeptide to a carboxylated glycan.

136. **(Currently Amended)** The method of Claim 135, further comprising d) identifying said test agent as reducing inflammation ~~or cancer~~ in a tissue comprising endothelial cells that express said carboxylated glycan.

137. **(Previously Added)** The method of Claim 135, wherein said carboxylated glycan is attached to a solid surface.

138. **(Previously Added)** The method of Claim 135, wherein said molecule comprising said carboxylated glycan is a glycoprotein or polysaccharide.

139. **(Previously Added)** The method of Claim 138, wherein said glycoprotein is a receptor for advanced glycation end products (RAGE).

140. **(Previously Added)** The method of Claim 135, wherein said antibody is monoclonal.

141. **(Previously Added)** The method of Claim 140, wherein said monoclonal antibody is an IgG antibody.

142. **(Previously Added)** The method of Claim 141, wherein said monoclonal IgG antibody is mAbEE4.1, mAbGB3.1, mAbB2.6, or mAbEH2.7.

143. **(Previously Added)** The method of Claim 141, wherein said monoclonal IgG antibody is mAbGB3.1.

144. **(Withdrawn)** An antibody specific for a carboxylated glycan purified by the method of Claim 123.

145. **(Withdrawn)** The antibody of Claim 144, wherein binding of said antibody to said carboxylated glycan is reduced by a carboxylated glycan, and said binding is not reduced by a carboxylate-neutralized glycan selected from an alkyl esterified glycan or alkylamidated glycan.

146. **(Withdrawn)** The antibody of Claim 145, wherein said alkyl esterified glycan is CONH-methyl-glycan.

147. **(Withdrawn)** The antibody of Claim 145, wherein said alkylamidated glycan is a methylamidated glycan.

148. **(Withdrawn)** The antibody of Claim 147, wherein said antibody is monoclonal.

149. **(Withdrawn)** The antibody of Claim 148, wherein said monoclonal antibody is an IgG antibody.

150. **(Withdrawn)** The antibody of Claim 149, wherein said monoclonal IgG antibody is mAbGB3.1.

151. **(New)** The method of Claim 135, wherein said antibody does not specifically bind to one or more acid selected from the group consisting of glucuronic acid, galacturonic acid, sialic acid, lactic acid, pyruvic acid, and uronic acid.

152. **(New)** The method of Claim 135, wherein said antibody does not specifically bind to one or more sulfated glycan selected from the group consisting of thyroglobulin and neural cell adhesion molecule.

153. **(New)** The method of Claim 135, wherein said antibody does not specifically bind to one or more glycosaminoglycan selected from the group consisting of chondrosamine, chondroitin sulfate, chondroitin sulfate tetramer, chondroitin sulfate octamer, hyaluronic acid tetramer, hyaluronic acid octamer, heparin, and heparin sulfate.

154. **(New)** The method of Claim 135, wherein said antibody does not specifically bind to one or more phosphorylated sugar selected from the group consisting of glucose-1-phosphate, glucose-6-phosphate, mannose-6-phosphate, and galactose-6-phosphate.

155. **(New)** The method of Claim 135, wherein said antibody does not specifically bind to one or more sulfated sugar selected from the group consisting of glucose-6-sulfate and galactose-6-sulfate.

156. **(New)** The method of Claim 136, wherein said carboxylated glycan that is expressed by said endothelial cells binds to a molecule comprising one or more of S100A8, S100A9, S10012, amphoterin, annexin I, and amino acids 1 to 12 of annexin I.

157. **(New)** The method of Claim 135, further comprising d) identifying said test agent as reducing adherence of leukocyte cells to endothelial cells that express said carboxylated glycan.

158. **(New)** The method of Claim 135, further comprising d) identifying said test agent as reducing transmigration of leukocyte cells in endothelial tissue that comprises endothelial cells expressing said carboxylated glycan.

159. **(New)** The method of Claim 135, further comprising d) identifying said test agent as reducing extravasation of leukocytes cells in endothelial tissue that comprises endothelial cells expressing said carboxylated glycan.

160. **(New)** The method of Claim 135, further comprising d) identifying said test agent as reducing growth of cancer cells that express said carboxylated glycan.

161. **(New)** The method of Claim 160, wherein said carboxylated glycan that is expressed by said cancer cells binds to a molecule comprising one or more of S100A8, S100A9, S10012, amphoterin, annexin I, and amino acids 1 to 12 of annexin I.

162. **(New)** The method of Claim 135, further comprising d) identifying said test agent as reducing growth of neuron cells that express said carboxylated glycans.

163. **(New)** The method of Claim 123, wherein said isolated first anionic BAP-glycan conjugate in step d) has 1 negative charge per molecule.

164. **(New)** The method of Claim 124, wherein said isolated second anionic BAP-glycan conjugate in step f) has 1 negative charge per molecule.

165. **(New)** The method of Claim 130, wherein said first desialylated anionic glycan in step c) has from 1 to 3 negative charges per molecule.

166. **(New)** The method of Claim 131, wherein said second desialylated anionic glycan in step d) has from 1 to 3 negative charges per molecule.